

What is claimed is

1. A flexible hose for use as a refrigerant passageway in a vehicular refrigerating cycle, comprising:

5       an inner hose; and

          an outer hose covering the inner hose with a space in a given distance;

          wherein at least one of the outer hose and the inner hose is formed from resin having a flexibility.

10       2. The flexible hose according to claim 1, wherein the outer hose is formed from raw material having a higher flexibility than that of raw material forming the inner hose.

3. The flexible hose according to claim 1, further comprising a coupling assembly which includes:

15       an inner sleeve-like conduit coupling including an inside connecting portion adapted to be coupled to an associated inside connecting portion, a plurality of retainer segments extending in a radial direction thereof, and an inside hose fixing portion fixedly retained by a distal end of the inner hose; and

          an outer sleeve-like conduit coupling including an outside connecting portion  
20       adapted to be coupled to an associated outside connecting portion, a retainer fixing portion fixedly retaining the retainer segments of the inner sleeve-like conduit coupling, and an outside hose fixing portion fixedly retained by a distal end of the outer hose,

          the outer conduit coupling having an inner diameter slightly larger than an outer  
25       diameter of the retainer segments of the inner conduit coupling;

          wherein caulking an outer circumferential periphery of the retainer fixing portion

after inserting the inner conduit coupling, fixedly retained with the distal end of the inner hose, into an interior of the outer conduit coupling fixedly retained with the distal end of the outer hose allows the retainer segments to be fixedly retained with the retainer fixing portion.

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4. The flexible hose according to claim 3, wherein the retainer fixing portion is disposed in the outside hose fixing portion and caulking an outer circumferential periphery of the outside hose fixing portion allows the retainer segments to be fixedly retained with the retainer fixing portion.

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5. The flexible hose according to claim 1, wherein at least one of the outer hose and the inner hose takes the form of a double-layer structure that includes a base layer formed in a substantially conduit shape, and a reinforcing layer formed by winding a reinforcing yarn onto an outer circumferential periphery of the base layer.

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6. The flexible hose according to claim 5, further comprising a coupling assembly which includes:

an inner sleeve-like conduit coupling including an inside connecting portion adapted to be coupled to an associated inside connecting portion, a plurality of retainer segments extending in a radial direction thereof, and an inside hose fixing portion fixedly retained by a distal end of the inner hose; and

an outer sleeve-like conduit coupling including an outside connecting portion adapted to be coupled to an associated outside connecting portion, a retainer fixing portion fixedly retaining the retainer segments of the inner sleeve-like conduit coupling, and an outside hose fixing portion fixedly retained by a distal end of the outer hose,

the outer conduit coupling having an inner diameter slightly larger than an outer diameter of the retainer segments of the inner conduit coupling;

wherein caulking an outer circumferential periphery of the retainer fixing portion after inserting the inner conduit coupling, fixedly retained with the distal end of the inner hose, into an interior of the outer conduit coupling fixedly retained with the distal end of the outer hose allows the retainer segments to be fixedly retained with the retainer fixing portion.

7. The flexible hose according to claim 1, wherein at least one of the outer hose and the inner hose takes the form of a three-layer structure that includes a base layer formed in a substantially conduit shape, a reinforcing layer formed by winding a reinforcing yarn onto an outer circumferential periphery of the base layer, and a protecting layer formed on an outer circumferential periphery of the reinforcing layer.

8. The flexible hose according to claim 7, further comprising a coupling assembly which includes:

an inner sleeve-like conduit coupling including an inside connecting portion adapted to be coupled to an associated inside connecting portion, a plurality of retainer segments extending in a radial direction thereof, and an inside hose fixing portion fixedly retained by a distal end of the inner hose; and

an outer sleeve-like conduit coupling including an outside connecting portion adapted to be coupled to an associated outside connecting portion, a retainer fixing portion fixedly retaining the retainer segments of the inner sleeve-like conduit coupling, and an outside hose fixing portion fixedly retained by a distal end of the outer hose,

the outer conduit coupling having an inner diameter slightly larger than an

outer diameter of the retainer segments of the inner conduit coupling;

wherein caulking an outer circumferential periphery of the retainer fixing portion after inserting the inner conduit coupling, fixedly retained with the distal end of the inner hose, into an interior of the outer conduit coupling fixedly retained with the distal end of the outer hose allows the retainer segments to be fixedly retained with the retainer fixing portion.

9. The flexible hose according to claim 1, wherein high pressure refrigerant flows through an interior of the inner hose, and low pressure refrigerant flows through a space between the inner hose and the outer hose.